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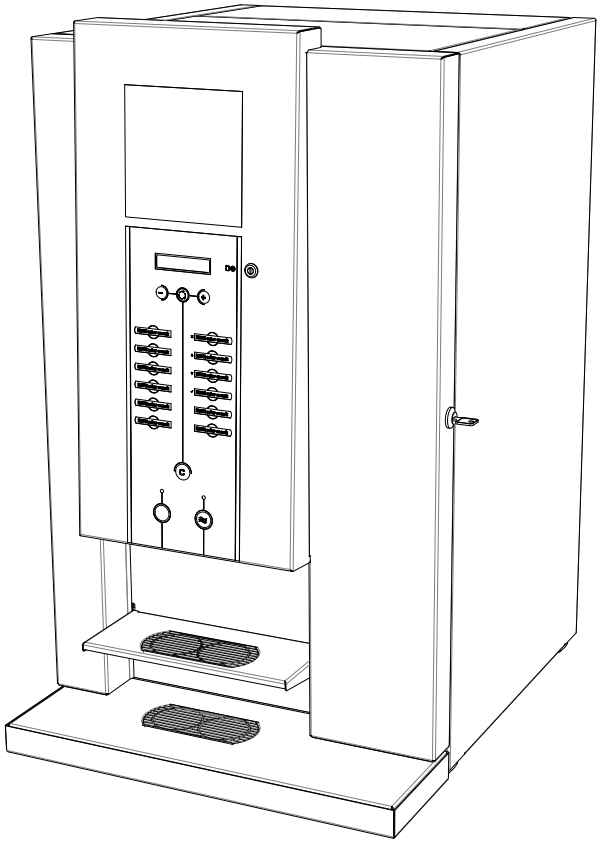
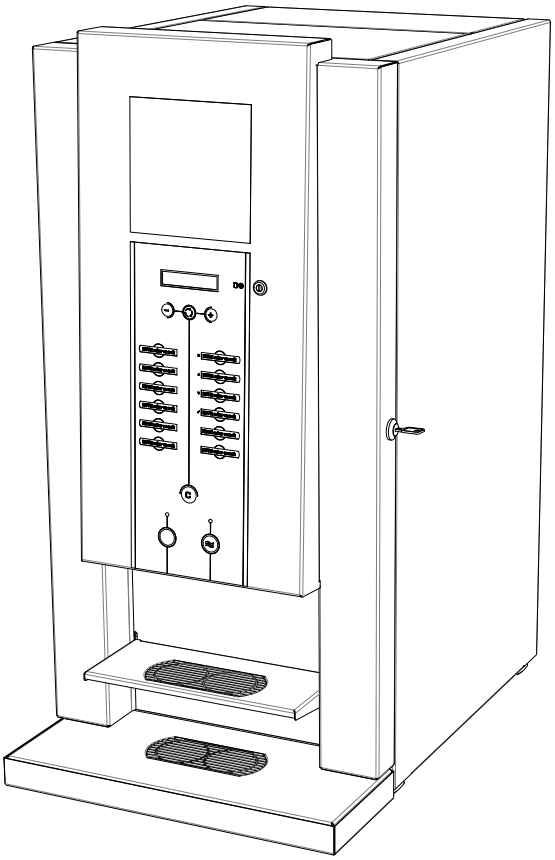
OPTIFRESH





NL Service boek

GB Service book

D Servicehandbuch

F Manuel de service / maintenance

CONTENT

PREFACE 44

1. BASIC FUNCTIONING 45
   - 1.1 Boiler System 46
   - 1.2 Temperature regulation 46
   - 1.3 Hot water dispensing 46
   - 1.4 Cold water dispensing (optional) 46
   - 1.5 Ingredients and mixer system 46
   - 1.6 Evaporation extractor system 47
   - 1.7 Brewer unit 47
     - 1.7.1 Adjustment 48
     - 1.7.2 Setting tips 49
     - 1.7.3 Troubleshooting 50

2. MENU STRUCTURE 51
   - 2.1 The operator/service menu 51
   - 2.2 The operator menu 52
   - 2.3 The service menu 53

3. RECIPE SETTINGS 61
   - 3.1 Quick recipe 61
   - 3.2 Model code system 61
   - 3.3 Button settings 62
     - 3.3.1 Standard canister configuration 62
     - 3.3.2 Different canister configuration 63
   - 3.4 Detailed recipe settings 62
   - 3.5 Timebar recipe settings 62
   - 3.6 Calibrating the hot water valves 64

4. SOFTWARE 65
   - 4.1 Memory card 65
   - 4.2 Installing software 65
   - 4.3 Installing a language 65

5. SERVICE 96
   - 5.1 Setting a service parameter 66
   - 5.2 Preventative maintenance 66
     - 5.2.1 Service contracts 66
     - 5.2.2 Servicing 67
   - 5.3 Descaling instructions 68

6. COMPONENT ACCESSIBILITY 70
6.1 Electronics summary 71
6.1.1 Control unit 71
6.1.2 Interface / Display 72
6.1.3 Power supply 72
6.2 Main circuit board entrances 73
6.3 Main circuit board exits 74
6.4 Main circuit board communication 75

7. TROUBLESHOOTING 75
7.1 Read log 75
7.2 Clear log 75
7.3 Troubleshooting 76

8. COIN MECHANISM (OPTIONAL) 78
8.1 Standard configuration 78
8.2 Rejecting coins 78
8.3 Activating existing tokens 79
8.4 Programming a new token 79
8.5 Accepting Euros and Tokens 79
8.6 accepting Tokens only 80
8.7 Cleaning the coin holder 80

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PREFACE

Purpose of this document
This document provides directions for use and serves as a service document for **trained, authorised service staff** to safety install, programme and maintain this device.

- Trained, authorised service staff are considered to be those who install, programme and maintain the device, and are able to carry out repairs.

The majority of settings, including product settings, are protected by a PIN code. This PIN code ensures that users do not gain access to the service menu. **It is recommended not to leave this document with the user after installation and to change the standard factory PIN code.**

All sections and paragraphs are numbered. The various figures referred to in the text can be found in the figures section at the beginning of the manual or with the corresponding subjects.

Pictograms and symbols.

CAUTION
General indication for: IMPORTANT, CAUTION or REMARK.

!

WARNING
Warning for possible damage to the device, surroundings or environment.

DANGER
Danger of possible severe damage to the device or physical injury.

DANGER
Danger of electricity and voltage.

DANGER
Danger of electrostatic discharge (ESD) in electronics.

1. BASIC FUNCTIONING

1. Waste bin
2. Hot water outlet
3. Coffee outlet/Drink outlet (instant)
4. Brewer
5. Brewer motor
6. Fresh brew coffee canister
7. Coffee canister motor
8. Dispensing valves
9. Water reservoir
10. Inlet valve

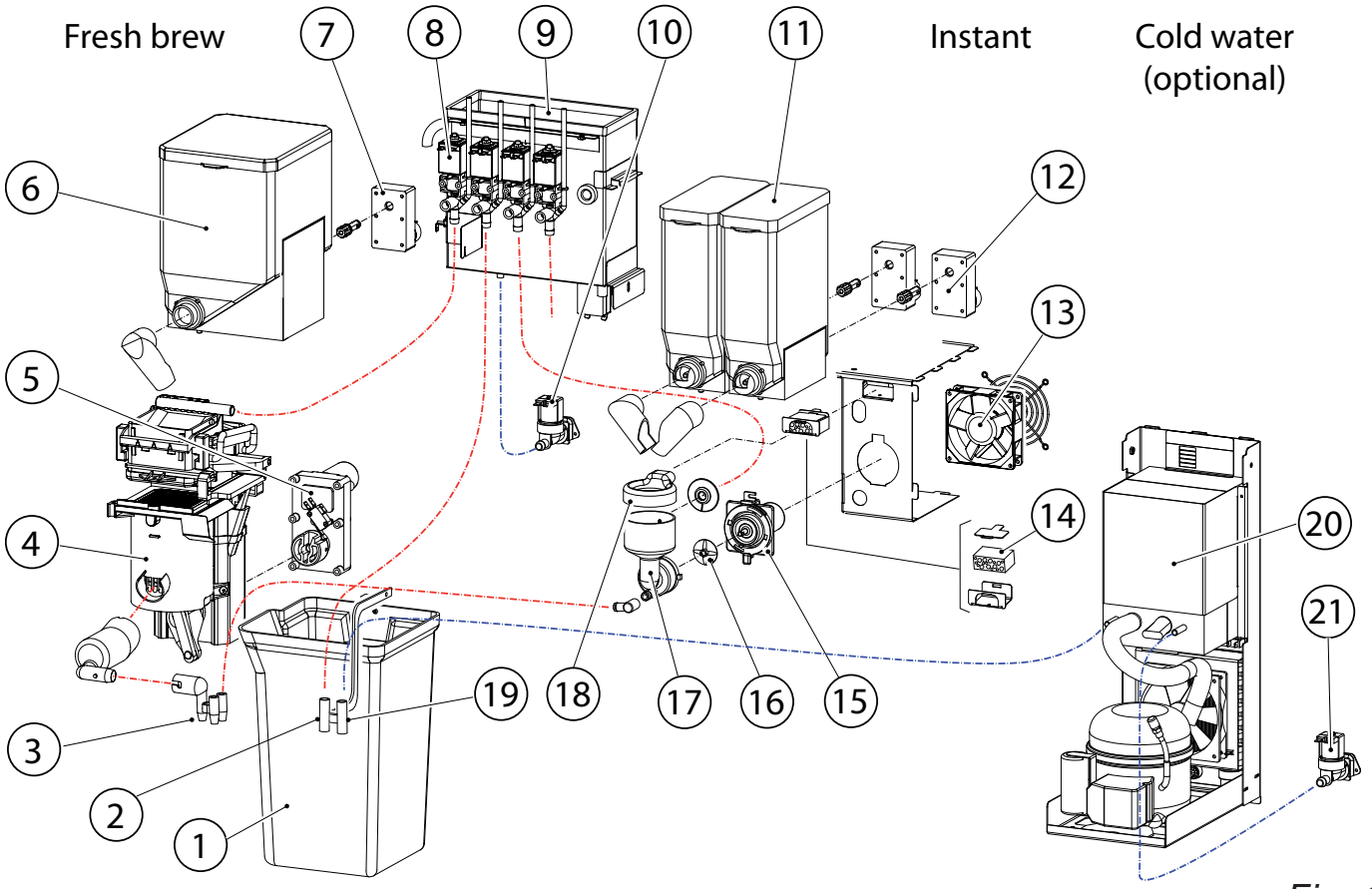


Fig. 1

Instant (OptiFresh 2 model and upwards)

11. Instant ingredient canisters
12. Canister motor
13. Ventilator
14. Evaporation extractor filter cassette
15. Mixer motor
16. Mixer impellor
17. Mixer housing
18. Evaporation extractor ring

Cold water (optional)

19. Cold water outlet
21. Cooling unit (base cabinet)
22. Inlet valve

1.1 Boiler System

Turn on the device using the ON/OFF switch. The display will light up.

The magnetic valve (fig. 1-10) will open and the hot water reservoir (fig. 1-9) will be filled to the maximum electrode. The heating element will be switched on. The display shows [boiler filling] and [boiler heating]. As soon as the NTC sensor measures the set temperature, the heating element will be switched off.

When a drink is being dispensed the water level drops and the maximum electrode is released; the inlet valve (2.5 litres/min.) opens and immediately refills the reservoir until the maximum level is reached again. If the water level falls under the minimum electrode level during operation, the operating panel display will show [refilling boiler]. If the supply of water is not restored within 90 seconds, the display will show the error message [E3 level error] and shut off the inlet valve.

1.2 Temperature regulation

The heating element is turned on when the water temperature falls below the temperature setting and the minimum electrode registers water. The temperature in the water reservoir is measured using an NTC precision sensor mounted on the outside wall of the reservoir.

The water temperature also drops when drinks are dispensed. To avoid the temperature regulator from responding too late, the heating element is switched on as soon as the inlet valve (fig. 1-10) opens and cold water is added. The heating element switches off again as soon as the inlet valve shuts off. The software can also be used to delay when the heating element switches off. See menu item 2.4 Settings / Temperature in the service menu. The heating element always switches off when the maximum boiler temperature of 97˚C is reached.

1.3 Hot water dispensing

When dispensing drinks one of the dispensing valve (fig. 1-8) opens and hot water flows to the brewer or mixer system. The flow velocity for each valve is set using the adjustment screw on the valve. The amount of outflow is determined by the length of time that the valve stays open. In order to rinse the brewer unit and mixer system, a small amount of rinsing water is released shortly after dispensing to rinse away any ingredient residue.

1.4 Cold water dispensing (optional)

OptiFresh has a built-in cold water option + special base cabinet with built-in cooling unit. When dispensing a cold-water recipe, inlet valve DV6 opens (fig. 1-21) and allows water to flow from the mains to the cooling unit cooling coil (fig.1-20). The cooled water already present flows directly to the cold water outlet (fig. 1-19). As soon as the valve shuts off again the cold water dispenser stops immediately.

1.5 Ingredients and mixer system

The ingredients canisters (fig. 1-11) are powered by a 130RPM motor (fig. 1-12). The instant product (ingredient) is forced out of the canister by a coil and drops through the dispensing bent pipes into the mixer unit (fig. 1-17). At the same time, the dispensing valves (fig. 1-18) dispense hot water into the mixer unit. The mixer motor (fig. 1-15) blends the instant product with water at a speed of 10,700 RPM using the mixer rotor (fig. 1-16). The drink flows into the cup via the drink outlet (fig. 1-3). All individual parts mentioned in this section can be sequentially coordinated using adjustable parameters (timers) in the control unit.

1.6 Evaporation extractor system

Evaporation released during mixing is largely absorbed by the evaporation extractor ring (fig. 1-18) and sucked into the machine via the filter cassette (fig. 1-14). The evaporation and ingredient residue are absorbed by the filter. The filter (fig. 1-14) can be easily reached (for cleaning purposes) by dismantling the mixer unit (fig. 1-17). To a large extent, this prevents evaporation from entering the canister outlet and making ingredients damp.

1.7 Brewer unit

Ground coffee and hot water are dispensed to the permanent filter and are drawn into the filter by vacuum. After making a fresh brew drink selection the following process (fig. 2) starts:

Start position	Brewer in resting position.
Start brewer 1	The piston leaves the resting position. Ground coffee and hot water is dispensed to the brewer unit.
Pause 1	The piston stops just above the outlet. Coffee and hot water is still dispensed.
Start brewer 2	The piston rises and forces air upwards out of the cylinder, ensuring that coffee and water are mixed thoroughly. Water dispensing stops during this cycle.
Pause 2	Piston stops at the highest setting to enable the coffee to be extracted.
Start brewer 3	The piston moves down and sucks the coffee extract through the permanent filter.
Pause 3	Just before the coffee extract leaves the brewer the piston either pauses or stops again to make sure the coffee residue is sufficiently dry.
Start brewer 4	The piston moves down further so that the outlet opening opens.
Pause 4	The coffee is now dispensed to the cup, goblet or jug.
Return to start	The piston returns to the start position again. At the same time the coffee residue is wiped away by the filter wiper, before it drops into the waste bin.

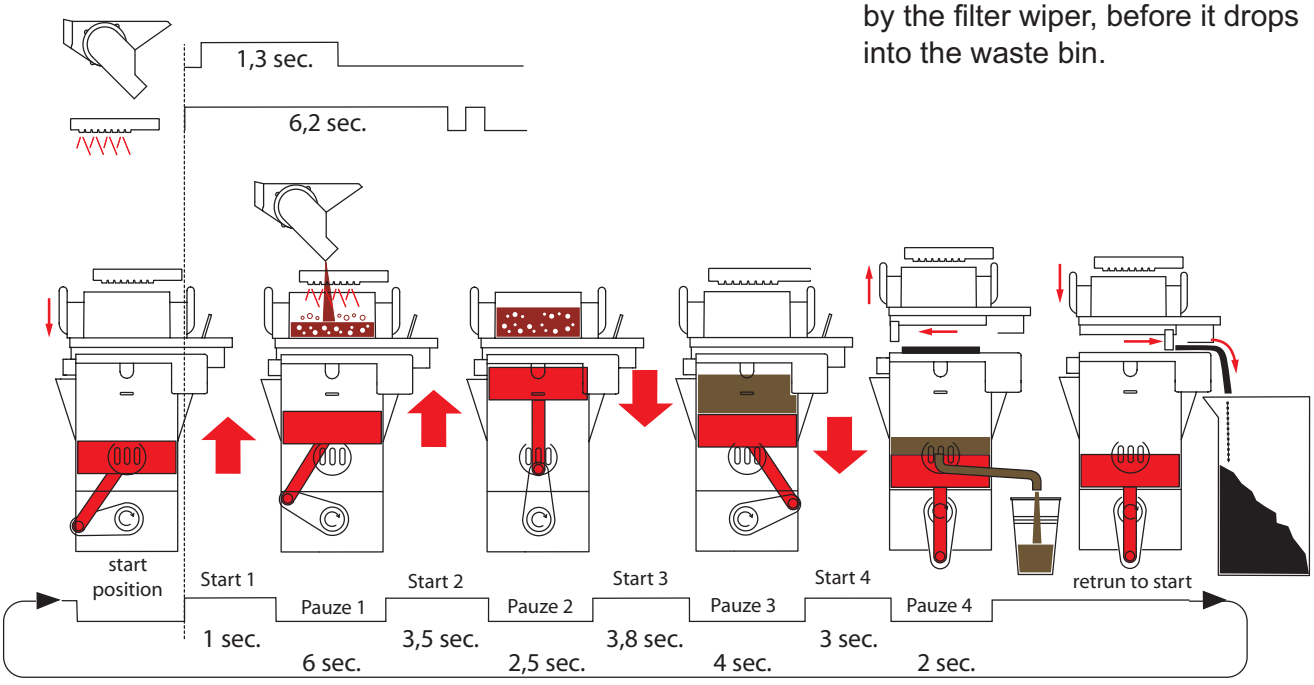


Fig. 2

1.7.1 Adjustment

If a leak occurs between the brewer unit and the permanent filter the tensile force of the brewer needs to be increased.

The tensile force of the brewer should be set so that no water is able to leak between the brewer unit (fig. 3-1) and the permanent filter (fig. 3-3).

The tensile force also ensures that the wiper (fig. 3-4) completely pushes the coffee residue off of the permanent filter.

See figure 3 for the most important brewer parts:

1. Brewer unit
2. Rubber seal (Art. No. 03375)
3. Permanent filter (Art. No. 03374)
4. Wiper (Art. No. 03380)
5. Tension member
6. Adjustment shim* (Art. No. 03384)
7. Rubber
8. H-frame
9. Tension member adjustment

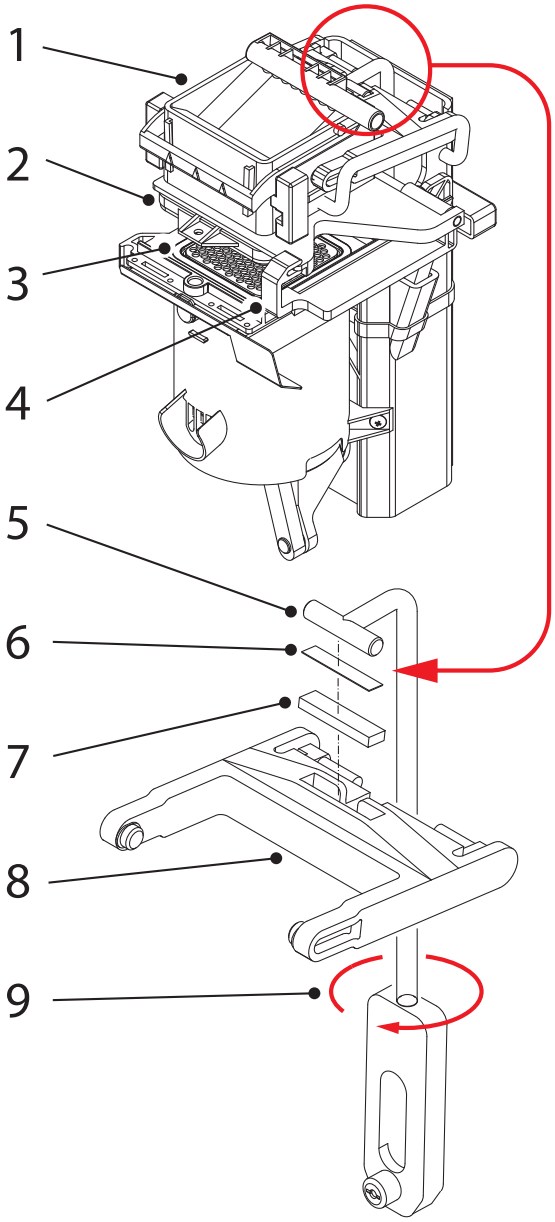
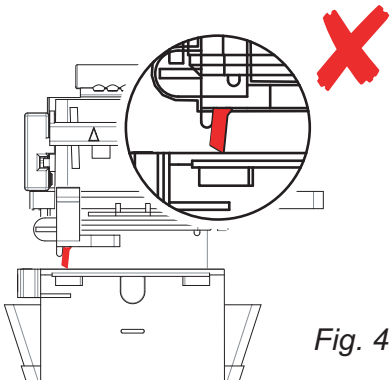
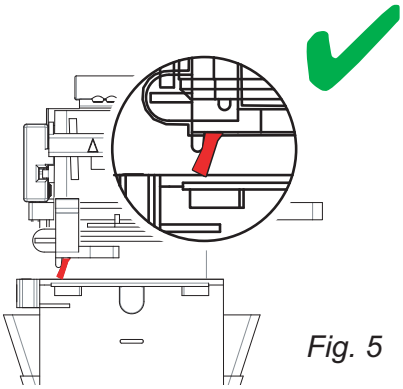
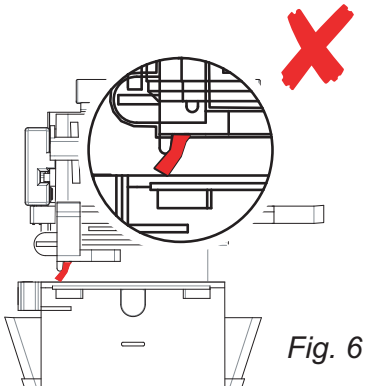


Fig. 3

1. First remove the brewer from the device (see section 8.7.2 for instructions).
2. The tensile force can be set by adding adjustment shims (fig. 3-6) between the tension member (fig. 3-5) and the H-frame (fig. 3-8).
3. Press the H-frame downwards and take the tension member out of the recess. Place an adjustment shim* in the recess and replace the tension member. CAUTION: adding multiple shims at the same time can cause excess tensile force and damage the brewer!
4. In most cases this procedure is sufficient for repairing leaks. If the brewer unit still leaks fit another adjustment shim.
5. If the brewer unit still leaks remove the two adjustment shims and then turn in the tension member once (clockwise). CAUTION: turning in the tension member should only be done as a last resort.
6. If the tensile force is correct but the brewer still leaks do not increase the tensile force any more! For further help see chapter 1.7.3 Troubleshooting.

* a extra shim is located behind the stainless steel panel on the inside of the door.

1.7.2 Setting tips

Tensile force too low (fig. 4)	Tensile force correct (fig. 5)	Tensile force too high (fig. 6)
If the wiper moves over the upper side of the cylinder it makes no contact with the permanent filter, so that coffee residue is left on the filter. The wiper does not bend at all. If the brewer unit is adjusted in this way it can leak. If leakage is severe this can even result in a vacuum loss, which means that the coffee residue remains too wet (particularly for larger dispensing volumes).  *Fig. 4*	If the brewer is adjusted correctly, the wiper moves carefully over the upper side of the cylinder and pushes the coffee residue off of the permanent filter. The wiper bends slightly. When the wiper moves to the right the coffee residue is transported to the waste bin. The coffee residue drops from the right side of the brewer straight into the waste bin.  *Fig. 5*	If the brewer is adjusted too high, the wiper will stretch and become clearly warped. Glancing along the long side of the wiper will show a warped effect in the rubber. The brewer is under extreme pressure and the sound of the brewer motor audibly changes as a sign of the severe load. This may even damage the wiper!  *Fig. 6* During the complete brewer cycle, ball bearings from the wiper arms and the tension member are under severe pressure, resulting in bending. The ball bearings may then break away, cracking the plastic brewer housing.

Signs that the tensile force is too high (fig. 6):

- The wiper is severely bent when it slides across the upper side of the brewer cylinder and permanent filter.
- It appears as if the wiper arm is flattened between the brewer unit and the upper side of the brewer cylinder.
- The brewer motor sounds as though it is running under extreme pressure.
- The wiper pushes against the coffee residue when moving to the left.
- Accumulation of coffee residue round the waste bin.

1.7.3 Troubleshooting

Problem	Probable cause	Action
The wiper pushes against the coffee residue when moving to the left.	The brewer unit does not rise far enough. The brewer unit is hindered during the upward movement.	Check if the brewer unit is able to move upwards freely.
	The brewer unit tensile force is too high.	Remove one adjustment shim to reduce the tensile force.
The coffee residue remains too wet. Never increase the tensile force under if the brewer unit tensile force is set correctly.	There is inadequate suction in the coffee residue.	Increase the pause 3 time (see section 1.6)
	The water temperature is too high.	Lower the water temperature.
	The permanent filter is dirty or worn.	Clean or replace the permanent filter.
If the above-mentioned problem is not resolved:	Check the brewer unit and cylinders for fractures.	Replace the defective parts.
	Check the cylinder for wear and tear or scratches.	Replace the defective parts.
	Check the Teflon coating for wear and tear.	Replace the defective parts.

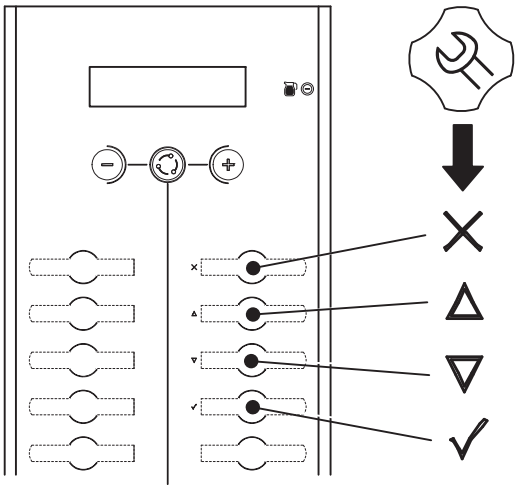
2. MENU STRUCTURE

2.1 The operator/service menu

The majority of settings, including product settings, are protected by a PIN code. This PIN code ensures that users do not gain access to the service menu.

It is recommended not to leave this document with the user after installation and to change the standard factory PIN code.

This section describes how the various settings can be changed by **trained, authorized service staff.** You can read about how to gain access to the service menu below. On access to the **service menu** the control panel has the following functions:



Escape (return without making any changes)

Previous (menu item / increase value)

Next (menu item / decrease value)

Enter (accept menu option)

Fig. 7

Summary:

Operator menu		**Service menu**	
1.0	Free dispensing	2.1	Quick recipe
1.1	Clock	2.2	Button settings
1.2	Timer settings	2.3	Recipe settings
1.3	Recipe counters	2.4	Settings
1.4	Quick recipe	2.5	Reset counters
1.5	Permanent filter	2.6	Descale / filter
1.6	Software	2.7	Hardware test
1.7	PIN-code	2.8	Read log
		2.9	Clear log
		2.10	Load defaults
		2.11	SD menu
		2.12	Change PIN code
		2.13	Additional settings

2.2 The operator menu

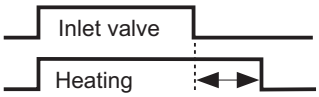
Operator menu					
Main item	Sub item	Item	Range	Set	Description
1.0 Free dispensing			Yes/no	Yes	Set the device to free or paid dispensing here.
1.1 Clock	Time		HH:MM		Set the clock to the correct local time here.
	Date		DD-MM-JJJJ		Set the clock to the correct local time here.
1.2 Timer	Mon-Fri		On 00:00 Off 00:00		Set the time when the device should operate here. If the timer switches off the device it will automatically revert to standby mode.
	Sat		On 00:00 Off 00:00		
	Sun		On 00:00 Off 00:00		
1.3 Recipe counters	Recipe 1 Recipe 12	Total	Off 00:00		Total counter for recipe 1 (free-paid-jugs)
		Free	Cups		Number of free dispensed drinks (recipe 1)
		Paid	Cups		Number of paid dispensed drinks (recipe 1)
		Jug	Cups		Number of dispensed jugs (recipe 1)
	Recipes total	Total	Cups		Total counter for all dispensed recipes
		Free	Cups		Total counter for all free dispensed recipes
		Paid	Cups		Total counter for all paid dispensed recipes
		Jug	Cups		Total counter for all dispensed jugs
	Rinse counters	Brewer			Number of brewer rinses
		Mixer(s)			Number of mixer rinses
	Reset counters				Total rest of all counters
1.4 Quick recipe	Recipe name 1 Recipe name 12	Cup volume	50-200 ml	120ml	Use this for setting the volume and strength of coffee, milk, sugar and cocoa easily per recipe (drink button). Only the ingredients applicable to the recipe are shown.
		Coffee (1)	-20 / +20%	0%	
		Decaf (2)	-20 / +20%	0%	
		Chocolate (3)	-20 / +20%	0%	
		Topping (4)	-20 / +20%	0%	
		Sugar (5)	-20 / +20%	0%	
1.5 Permanent filter	Reset teller				After the permanent filter of the vending unit (brewer) has reached the maximum number of brews the filter must be replaced. After replacing the permanent filter, reset the 'replace brewer filter' indicator.
1.6 Software					Software version is readable here.
1.7 PIN-code			2-2-2-2-2		PIN code = press the number 2 key five times.

2.3 The service menu

Service menu					
Main item	Sub item	Item	Range	Set	Description
2.1 Quick recipe	Recipe name 1	Cup volume	50-200 ml	120ml	Use this for setting the volume and strength of coffee, milk, sugar and cocoa easily per recipe (drink key). Only the ingredients applicable to the recipe are shown.
		Coffee (1)	-20 / +20%	0%	
		Decaf (2)	-20 / +20%	0%	
		Chocolate (3)	-20 / +20%	0%	
		Topping (4)	-20 / +20%	0%	
	Recipe name 12	Sugar (5)	-20 / +20%	0%	
2.2 Button setting	Button 1	<Recipe name>	Recipe list See section 3.2		Change any recipe buttons here that standard factory settings. All settings that correspond to selected recipes are automatically loaded.
		Recipe active	Yes/no	Yes	Use this to place the product concerned out of service.
		Price	0,05-2,00	0,10	For paid dispensing a price can be set here for each product button.
* From software 2.0		Cup volume	50-230ml *	120ml	Set the desired cup volume here. All other parameters (e.g. coffee dosage) can be adjusted automatically. This parameter is coupled to the quick recipe cup volume!
		Cup volume >200ml advice: deactivate Quick recipe in the Operator menu; 2.4 Settings / I/O Quick recipe.			**Cup volume >200ml change brewer parameters (from software V02.01):** Pause 2 increase to 4,5 s. (2,5) Start 3 increase to 4,8 s. (4,0) Pause 3 increase to 5,5 s. (1,5) Start 4 decrease to 2,2 s. (3,0) Pause 4 increase to 4,0 s. (2,0)
		Multicup	0-20	0	Set the number of cups that should be dispensed when the key switch is in the jug setting.
		Key switch	0-1-2-3	0 / 1	Recipe button concerned works as follows: 0= key switch setting n/a CUP (paid) or JUG* (paid) 1= key switch |: CUP (paid) key switch –: JUG* (paid) 2= key switch |: no dispensing key switch –: JUG* (paid) 3= key switch |: CUP (paid) key switch –: JUG* (free) (*when multicup is set to >1)
	Button 12	Push & Hold	Yes-No	No	If set to yes: pressing this button starts the hot/cold water dispensing and releasing it stops the hot water dispensing. Only use this option for Water 4 and Water 6 in combination with a hot/cold water recipe button.
		Drip time	0-10 sec.	2 sec.	The length of time that the product continues to run from the brewer or mixer. After this time has elapsed a new drink selection can be made.

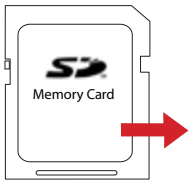
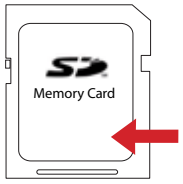
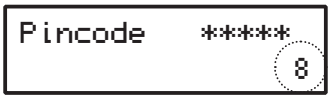
Service menu continued ….					
Main item	Sub item	Sub	Item	Range	Description
2.3 Recipe setting	Recipe name 1	Unit 1	DV 1 WT	0,0-30,0 s	Waiting time Water 1
			DV 1	0,0-100,0 ml	Dispensing amount Water 1 (Brewer)
			Rinse 1 WT	0,0-20,0 s	Waiting time Rinsing Water 1
			Rinse 1	0,0-15,0 ml	Dispensing amount Rinsing Water 1 Automatically deducted from Water 1
			Ingredient 1 WT	0,0-30,0 s	Waiting time Ingredient 1
			Ingredient 1	0,0-50,0 s	Product dispensing time Ingredient 1
			Ingredient 2 WT	0,0-30,0 s	Waiting time Ingredient 2
			Ingredient 2	0,0-50,0 s	Product dispensing time Ingredient 2
			Start brewer	0,0-30,0 s	1st start time brewer
			Pause 1 brewer	0,0-30,0 s	1st pause time brewer
			Start 2 brewer	0,0-30,0 s	2nd start time brewer
			Pause 2 brewer	0,0-30,0 s	2nd pause time brewer
			Start 3 brewer	0,0-30,0 s	3rd start time brewer
			Pause 3 brewer	0,0-30,0 s	3rd pause time brewer
			Start 4 brewer	0,0-30,0 s	4th start time brewer
			Pause 4 brewer	0,0-30,0 s	4th pause time brewer
		Unit 2	DV 2 WT	0,0-30,0 s	Waiting time Water 2
			DV 2	0,0-100,0 ml	Dispensing amount Water 2
			Rinse 2 WT	0,0-20,0 s	Waiting time Rinsing Water 2
			Rinse 2	0,0-15,0 ml	Dispensing amount Rinsing Water 2 Automatically deducted from Water 2
			Ingredient 3 WT	0,0-30,0 s	Waiting time Ingredient 3
			Ingredient 3	0,0-50,0 s	Product dispensing time Ingredient 3
			Ingredient 4 WT	0,0-30,0 s	Waiting time Ingredient 4
			Ingredient 4	0,0-50,0 s	Product dispensing time Ingredient 4
			Mixer 2 WT	0,0-30,0 s	Waiting time Mixer 2
			Mixer 2	0,0-50,0 s	Mixing time Mixer 2
		Unit 3	DV 3 WT	0,0-30,0 s	Waiting time Water 3
			DV 3	0-100 ml	Dispensing amount Water 3
			Rinse 3 WT	0,0-20,0 s	Waiting time Rinsing Water 3
			Rinse 3	0,0-15,0 ml	Dispensing time Rinsing Water 3 Automatically deducted from Water 3
			Ingredient 5 WT	0,0-30,0 s	Waiting time Ingredient 5
			Ingredient 5	0,0-50,0 s	Product dispensing time Ingredient 5
			Ingredient 6 WT	0,0-30,0 s	Waiting time Ingredient 6 (optional)
	Recipe name 12		Ingredient 6	0,0-50,0 s	Product dispensing time Ingredient 6 (optional)
			Mixer 3 WT	0,0-30,0 s	Waiting time Mixer 3
			Mixer 3	0,0-50,0 s	Mixing time Mixer 3

Service menu continued ….				
Main item	Sub item	Sub Item	Range	Description
2.3 Recipe setting (continued…)	Recipe name 1	DV 4 WT	0,0-30,0 s	Waiting time Water 4
		DV 4	0,0-100,0 ml	Dispensing amount Water 4 (Hot water dispensed)
		DV 5 WT	0,0-30,0 s	Waiting time Water 5
		DV 5	0,0-100,0 ml	Dispensing amount from an extra hot water valve Water 5 (reserved for a Brewer By-Pass option).
		DV 6 WT	0,0-30,0 s	Waiting time Water 6
		DV 6	0,0-100,0 ml	Dispensing amount from an extra inlet valve Water 6 (Cold Water option)
		Strength Coffee	0-50%	Use the strength setting item to add an ingredient to the strength adjustment. Ingredient strength adjustment: 0= off / > 1 = on Example: [coffee] 20% Strength -- - 0 + ++ -20% -10% 0 10% 20% Example: [cocoa] 40% Strength -- - 0 + ++ -40% -20% 0 20% 40%
		Strength Chocolate	0-50%	
		Strength Topping	0-50%	
		Strength Sugar	0-50%	
	Recipe name 12	Strength Ingrediënt 6 Option	0-50%	

Service menu continued…					
Main item	Sub item	Item	Range	Set-ting	Description
2.4 Settings * From software 2.0	Language	English			Language choice display. Ex factory setting English.
		Dutch			
		German			
		French			
	Temperature	Temp. boiler	70-97°C *	95°C *	Boiler temperature standard model 1A - 5A
				90°C *	Boiler temperature FreshBrew + instant model 6A t/m 9A
		Hysteresis	0-10°C	2°C	Temperature drop, after which boiler must reheat
		Output block	70-95°C	78°C	Boiler temperature disables dispens-ing. Display: [Out of order, boiler heating]
		Output release	70-95°C	85°C	Boiler temperature allows dispens-ing again
		Stand-by	60-95°C	60°C	Boiler temperature during stand-by
		Extended Heating	0-5 sec	1 sec	To maintain the optimum boiler tem-perature the heating element and inlet valve switch on simultaneously. Set the waste delay of the element here after the inlet valve is closed. Inlet valve Heating 
	Display	Show clock	Yes/no	No	Show clock in display
		Show date	Yes/no	No	Show date in display
		Message text	Yes/no	No	Show message text (running text) in display. Only shown if Display Date, Clock or both are set to no. Mes-sage text only programmable using a future PC programme.
	Use bleeper		Yes/no	Yes	Sound signal on or off
	Fan time		0-300 sec.	60 s.	Duration of Fan speed 1 after dispensing
	Fan speed 1		40-100%	50%	Fan speed when resting
	Fan speed 2		70-100%	100%	Fan speed during dispensing

Service menu continued …..						
Main item	Sub item	Item		Range	Set-ting	Description
2.4 Settings (continued…)	Coin system	G13	Coin channel 1 … Coin channel 6	0-100,00 + Token	€ 0,05 € 0,10 € 0,20 € 0,50 € 1,00 € 2,00	Coin value setting for each channel. €0.05-€2 respectively. 0.00=free TOKEN=coffee token
			Single vend	ja-nee	ja	Yes: any excess credit is not retained for next drink. No: credit retained for next drink.
			Max coin accep.	€ 0,05-100,00	€ 1,00	Coins larger than € 1.00 are rejected and ejected through the return slot of the coin mechanism. Adjust to the highest recipe product price.
			Point position	0-2	2	Decimal position in amount
			Show credit	Yes/no	Yes	Show credit on the display
		MDB				No MDB software available yet
	I/0 Reset counter			Yes/no	No	Add Reset counters menu item to the operator menu
	I/0 Quick recipe			Yes/no	Yes	Add Quick recipe menu item to the operator menu
* From software 2.0	* Drip tray sign.			Yes/no	Yes	Turns off drip tray sensor software.
2.5 Reset counters	Rinse counters	Brewer counter?				Reset brewer spoelteller
		Mixer counter?				Reset mixer spoelteller
	Recipe counters	Recipe counter 1 … Recipe counter 12				Reset recepttellers per recept.
		Reset counter total				Reset totaal tellers
	Reset all counters					Reset alle tellers ineens
2.6 Descale/filter	Service moment			0-25000	12500	After the Service Due setting has been reached the Descale/filter indicator will be displayed. See section 5. Service
	Service counter				?????	The number of beverages dispensed is counted here. Check here to see how far the machine is from periodic maintenance (descaling boiler or replacing water filter).
	Reset serv. coun					After periodic maintenance has been carried out (boiler descaled or filter replaced) the service counter should be set to nil.

Service menu continued….				
Main item	Sub item	Sub	Range	Description
2.7 Hardware test	Inputs	Temperature	Boiler temp	Shows the status of the sensors/switches indicated
		Level sensors	High Yes/no Low Yes/no	
		Drip tray sensor	Yes/no	
		Waste bin	Yes/no	
		Door switch	Yes/no	
		Brewer switch	Yes/no	
		Key switch	Yes/no	
	Outputs **Test by holding in recipe button 11.** # During test the display shows the Nominal current (mA) When the Nominal current of a output rises above the set current * mentioned output will be shut off. **Caution: BM 1 goes through a complete drinks cycle.**	KW1	* 400 mA	Inlet valve (Boiler)
		DV1		Dispenser valve 1 (Brewer)
		DV2		Dispenser valve 2 (Mixer 2)
		DV3		Dispenser valve 3 (Mixer 3)
		DV4		Dispenser valve 4 (Hot water)
		DV5		Dispenser valve 5 (n/a)
		DV6		Inlet valve 6 (Cold water) optional!
		IM1 #	* 400 mA	Ingredients motor 1 (Canister 1)
		IM2 #		Ingredients motor 2 (Canister 2)
		IM3 #		Ingredients motor 3 (Canister 3)
		IM4 #		Ingredients motor 4 (Canister 4)
		IM5 #		Ingredients motor 5 (Canister 5)
		IM6 #		Ingredients motor 6 (Canister 6)
		BM/MM1 #	* 800 mA	Brewer motor
		MM2 #		Mixer motor 2
		MM3 #		Mixer motor 3
		Ventilator	* 200 mA	Ventilator
		LED's		LED's
	Calib. valves **Test by holding in recipe button 11 (for 1 sec.) to open the relevant valve for 10 seconds.**	DV1	15 ml / sec	Calibrate to 150 ml (10 sec x 15 ml)
		DV2	15 ml / sec	Calibrate to 150 ml (10 sec x 15 ml)
		DV3	15 ml / sec	Calibrate to 150 ml (10 sec x 15 ml)
		DV4	20 ml / sec	Calibrate to 200 ml (10 sec x 20 ml)
		DV5	20ml / sec.	Calibrate to 200ml (10sec. x 20ml) (Optional valve for Brewer By-pass)
		DV6	42 ml / sec	Inlet valve cannot be calibrated (fixed flow)

Service menu continued….			
Main item	Sub item	Item	Description
2.8 Read log			Saves last 20 error messages, including date and time
2.9 Clear log	Are you sure?		Clears log
2.10 Load defaults # See chapter 3.2 Model code system * available from software version 2.0	Model # OF1A xx00 OF2A xx00 OF3A xx00 OF4A xx00 OF5A xx00 * OF6A xx00 * OF7A xx00 * OF8A xx00 * OF9A xx00 *	Are you sure?	When a new circuit board is introduced it is necessary to load defaults. When loading defaults it must be stated on the OptiFresh model plate. The correct model settings are not loaded until the question 'Are you sure?' has been confirmed. **Attention**: ● Before you start changing the button- and/or receipt- settings, first close the service menu, only after re-entering the service menu the new model settings will be activated. ● When you confirm this setting all loaded factory settings and changed programmed values will be lost. ● After loading defaults the PIN code reverts to 2-2-2-2-2 and the language reverts to English. Change if necessary.
2.11 SD menu Before saving or loading data, insert an empty SD memory card into the card reader . This is located behind the stainless steel panel on the inside of the door. SD card specifications: - 16MB or greater - FAT16 format	Load data 	Pers. settings	This menu item is for loading **personal settings** to the device using an SD memory card. This file contains the (amended) personal settings for menus: **2.4 Settings / 2/6 Descale-filter / 2.13 Additional settings.** The data file (Ofxxxx00.mdu) should be on the SD card.
		Language	This menu item is for loading a **different language set** to the device. The data file (xxxxxx.tlf) should be on the SD card.
		Recipe	This menu item is for loading **personal recipes** to the device using an SD memory card. This file contains the (amended) personal recipes for menus: **2.1 Quick recipe / 2.2 Button settings / 2.3 Recipe settings.** The data file (OFxxxx00.rcu) should be on the SD card.
	Save data 	Pers. settings	This menu item is for saving **personal settings** to an SD memory card and copying them to another device. All settings amended in menus: **2.4 Settings / 2.6 Descale-filter / 2.13 Additional settings** are loaded to the SD card in one data file (OFxxxx00.mdu).
		Recipes	This menu item is for saving **personal recipes** to an SD memory card and copying them to another device. All settings amended in menus: **2.1 Quick recipe / 2.2 Button settings/ 2.3 Recipe settings** are loaded to the SD card in one data file (OFxxxx00.rcu).
2.12 Change PIN	New PIN code	Repeat PIN code	This menu item is for changing the PIN code using buttons 1-4 only. The entire service menu is accessed with this PIN code, which prevents unintentional changes from being made to the machine settings by untrained staff. • The ex-factory PIN code is 2-2-2-2-2 PIN code forgotten or needs to be deactivated? The PIN code input display (operator menu item 1.7) shows a number on the right. Enter the corresponding PIN code (see list on p.60) to access the service menu. 

Service menu continued…					
Main item	Sub item	Item	Range	Set	Description
2.13 Addit. settings **From** software 2.0 moved to menu 2.4.10	Waste manag.	Cup amount	0-1000	250	**After reaching the set total of brewer movements, dispensing is disabled and the display reads: Out of order – Waste bin full**
		Almost full sign.	0-1000	230	After reaching the set total of brewer movements, the display reads: **Waste bin almost full**
		Time-out reset	0-50 sec.	15 s	The length of time that the waste bin is allowed to be removed (for emptying). When replacing it the (internal) waste bin counter is reset. Any display messages disappear.
		Waste bin sign..	Yes/no	Yes	Turns off waste bin sensor software (bypass).
	~~Drip tray sign.~~		~~Yes/no~~	~~Yes~~	~~Turns off drip tray sensor software.~~
	Cycle counter	xxxxx	0-99999		This Cycle counter records the number of vends the brewer has made. Tip: This counter can be reset after maintenance if the brewer has been checked.
	Reset c. counter	Reset counter?			Reset Cycle counter (Brewer)
	Perm.filter coun	xxxxx	0-10.000	6000	When the set number of (Brewer) vends is reached the display reads 'Replace permanent filter' when switching on.
	Reset p. filter	Reset counter?			Reset the permanent filter counter after (preventative) replacement

PIN Code Table

No.	Pincode				
1	3	4	2	4	2
2	3	1	4	3	4
3	4	1	3	4	3
4	4	3	2	3	2
5	2	3	3	4	1
6	4	2	1	3	1
7	2	4	2	4	4
8	2	3	2	4	1
9	2	4	3	2	3
10	3	1	3	3	2

Table 1

No.	Pincode				
11	1	3	3	3	2
12	1	2	4	1	3
13	4	3	1	2	1
14	1	1	1	4	2
15	2	1	2	1	1
16	1	2	2	3	3
17	3	4	1	4	4
18	4	1	4	3	3
19	3	1	2	4	1
20	2	2	3	2	4

Water Hardness Table

Water Quality	Hardness				Limescale Indicator ...cups
	°D	°F	mmol/l	mgCaCo3/l	
Very hard	18-30	32-55	3,2-5,3	321- 536	5000
Hard	12-18	22-32	2,2-3,2	214-321	8500
Average	8-12	15-22	1,4-2,2	268-214	12.500*
Soft	4-8	7-15	0,7-1,4	72-268	20.500
Very soft	0-4	0-7	0- 0,7	0-72	0 = off

Table 2

3. RECIPE SETTINGS

3.1 Quick recipe

First of all we would like to remind you that the **cup volume** (ml) and **strength** (%) can easily be set in the service menu **2.1 Quick recipe** (page 53 of this document).

The operator of the device (end user) also has access to this quick recipe, which is found under section 1.4 Quick recipe (see user manual). As supplier of the device, you can remove the quick recipe from the operator menu if desired. Go to **2.4 Settings / 2.4.9 I/0 Quick recipe** via the service menu and change **Yes** into **No**.

3.2 Model code system

The OptiFresh models have the following standard canister configurations (fig. 8):

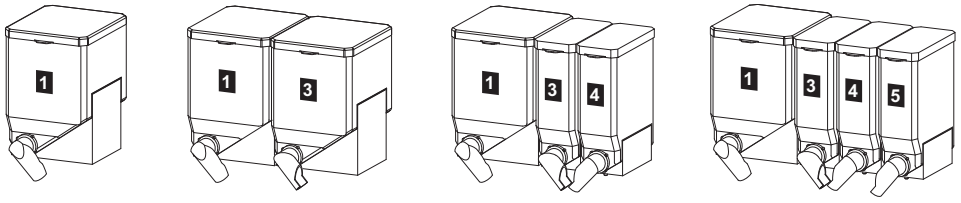


Fig. 8

OptiFresh 1 A [FB Coffee]
OptiFresh 2 A [FB Coffee / Chocolate]
OptiFresh 3 A [FB Coffee / Chocolate / Topping]
OptiFresh 4 A [FB Coffee / Chocolate / Topping / Sugar]

If the device is delivered with a different canister configuration this can be given a new number using the model code system below.

OptiFresh | **O** | **F** | **4** | **A** | a a 0 0

Model

OF 1 standard	1
OF 2 standard	2
OF 3 standard	3
OF 4 standard	4
OF 2 Topping instead of Chocolate	5
OF 2 Instant Coffee instead of Chocolate	6
OF 3 Instant Coffee instead of Chocolate	7
OF 3 Instant Coffee instead of Topping	8
OF 4 Instant Coffee instead of Sugar	9

Internal data

Model version

A	Base execution
D	Decaf execution

3.3 Button settings

3.3.1 Standard canister configuration

The standard of programmed recipes (table 3) can easily be transferred over the 12 recipe buttons. See service menu **2.2 Button settings** (page 53).

The optional recipes table are already contained in the software and can easily be programmed under one recipe button. See service menu **2.2 Button settings** (page 53).

		OptiFresh 1	OptiFresh 2	OptiFresh 3	OptiFresh 4
Standard recipes	**Button**	**Model 1 A**	**Model 2 A**	**Model 3 A**	**Model 4 A**
	1	# Coffee	# Coffee	# Coffee	# Coffee
	2	Espresso	Espresso	Coffee Milk	Coffee Milk
	3	Double Espresso	Double Espresso	Espresso	Sugar
	4	-	Hot Chocolate	Double Espresso	Milk & Sugar
	5	-	Coffee Choc	Hot Chocolate	Espresso
	6	-	-	Coffee Choc	Double Espresso
	7	-	-	Cappuccino	Hot Chocolate
	8	-	-	Moccacino	Coffee Choc
	9	-	-	-	Cappuccino
	10	-	-	-	Moccacino
	11	-	-	-	-
	12	# Hot water	# Hot water	# Hot water	# Hot water
Optional recipes		*Cold Water **	*Cold Water **	*Cold Water **	*Cold Water **
		Jug of Coffee	*Espresso Choc*	*Latte Macchiato*	*Latte Macchiato*
		Jug of Hot Water	*Jug of Coffee*	*Espresso Choc*	*Cappuccino Sugar*
			Jug of Hot Water	*Chocolate Milk*	*Espresso Choc*
				Warm Milk	*Espresso Sugar*
				Café au Lait	*Chocolate Milk*
				Jug of Coffee	*Warm Milk*
				Jug of Hot Water	*Café au Lait*
					Jug of Coffee
		# = jug filled using key switch			*Jug of Hot Water*
		** = only OptiFresh with cold water option*			

Table 3

3.3.2 Different canister configuration*

The standard of programmed recipes (table 4) can easily be transferred over the 12 recipe buttons. See service menu **2.2 Button settings** (page 53).

The optional recipes table are already contained in the software and can easily be programmed under one recipe button. See service menu **2.2 Button settings** (page 53).

* Available from software version 2.0

		OptiFresh 2		OptiFresh 3		OptiFresh 4
	Button	**Model 5 A**	**Model 6 A**	**Model 7 A**	**Model 8 A**	**Model 9 A**
Standard recipes	1	# Coffee	# Coffee	# Coffee	# Coffee	# Coffee
	2	Coffee Milk	Espresso	Coffee Milk	Espresso	Coffee Milk
	3	Espresso	Double Espresso	Espresso	Double Espresso	Espresso
	4	Double Espresso	-	Double Espresso	Hot Chocolate	Hot Chocolate
	5	Cappuccino	-	Cappuccino	Coffee Choc	Coffee Choc
	6	Café au Lait	-	Café au Lait	-	Cappuccino
	7	Latte Macchiato	Coffee inst.	Coffee inst.	Coffee inst.	Coffee inst.
	8		Espresso inst.	Coffee inst. Mlk	Espresso inst.	Coffee inst. Milk
	9	-	Dub. Espresso inst.	Espresso inst.	Dub. Espresso inst.	Espresso inst.
	10	-	-	Dub. Espresso inst.	-	Moccacino inst.
	11	-	-	Cappuccino inst.	-	Cappuccino inst.
	12	# Hot water	# Hot water	# Hot water	# Hot water	# Hot water
Optional recipes		*Cold Water **	*Cold Water **	*Cold Water **	*Cold Water **	*Cold Water **
		Warm Milk	*Jug of Coffee*	*Latte Macchiato*	*Espresso Choc*	*Latte Macchiato*
		Jug of Coffee	*Jug of Coffee inst.*	*Warm Milk*	*Jug of Coffee*	*Espresso Choc*
		Jug of Hot Water	*Jug of Hot Water*	*Café au Lait inst.*	*Jug of Coffee inst.*	*Chocolate Milk*
				Jug of Coffee	*Jug of Hot Water*	*Warm Milk*
				Jug of Coffee inst.		*Café au Lait*
				Jug of Hot Water		Moccacino
						Café au Lait inst.
						Latte Macchiato inst
		# = jug filled using key switch				*Jug of Coffee*
		** = only OptiFresh with cold water option*				*Jug of Coffee inst.*
		inst. = Recipe made with instant coffee				*Jug of Hot Water*

Table 4

3.4 Detailed recipe settings

To change detailed recipe settings (service menu 2.3) you first need to be aware of the various parts such as valves, brewer motor, ingredients motor and mixers that work together. See section 3.5 Timebar recipe settings.

The following rules should be taken into consideration:

- Water (valves) are easily set in millilitres.
- Motor running times (Ingredients/Mixers/Brewer) are set in seconds (0.1 second steps)
- All parameters (Water and Ingredients) are based on a 100 ml drink and the programme automatically converts them to the cup volume as set in 1.4 / 2.1 Quick recipe and 2.2 Button settings.
- If a drink contains DV1 and DV2, the total amount of water should always be 100 ml when combined. For DV1, DV2 and DV3, this amount = > 100 ml.
- A Rinse parameter is used to ensure that the brewer unit and mixers are properly rinsed after making a drink. After the mixers are almost empty a small amount of hot water is dispensed to the mixer so that it is as clean as possible on completion.

A realistic rinse value is 7.5 ml. Caution: this does not need to be deducted from the amount of water as the programme does this automatically!
Example: Set parameter for DV1 = 100 ml, Rinse 1 = 7.5 ml -->
Programme carries out the following action: DV1 = 92.5 ml, Rinse 1 = 7.5

3.5 Timebar recipe settings

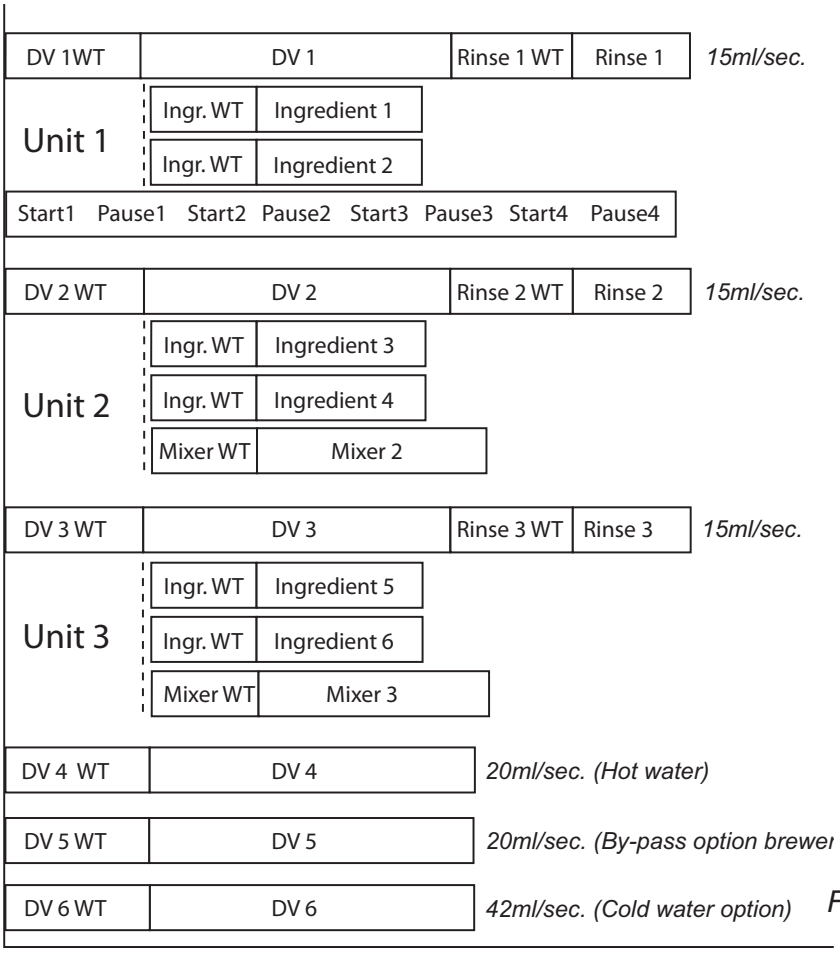
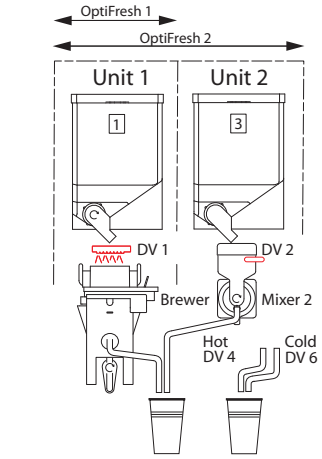


Fig. 9



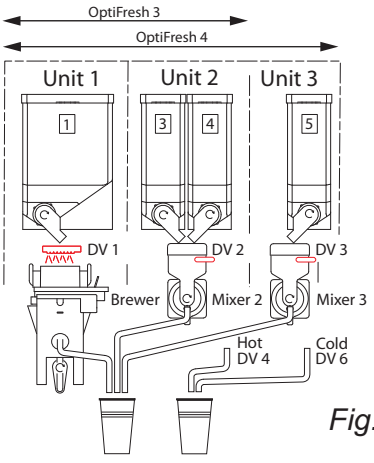


Fig. 10

3.6 Calibrating the hot water valves

The Brewer and Mixers are supplied with water by the Dispensing Valves (DV).

In the unlikely event that one of the valves needs replacing, it should be calibrated to one of the dispensing speeds given in figure 11 after it has been fitted.

When calibrating valves, use the special **Valve Calibration** menu by opening the **Service Menu** and going to **2.7 Hardware Test / 2.7.2 Calibrating Valves**.

The hot water dispensing valves are accessible by dismantling the canister plateau behind the ingredients canisters.

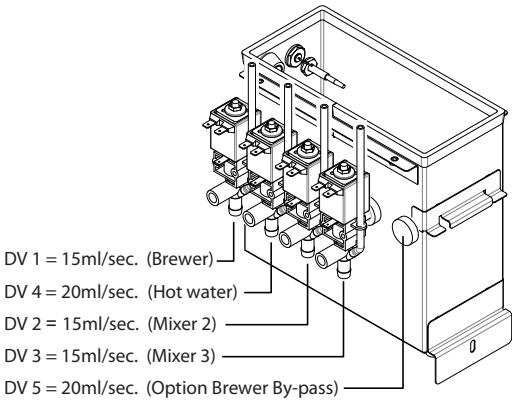


Fig. 11

4. SOFTWARE

4.1 Memory card

Type: SD
Capacity: 16Mb or bigger
Format: FAT (no FAT32 or NTFS)

4.2 Installing software

The device can easily be installed with new software, which is made available as follows:

- www.Animo.eu / dealer log in: Extranet *
- By Email

4.3 Installing a language

The device has four standard languages (NL/GB/D/F).
The device can easily be installed with another language set (if available).
A new language file can be made available as follows:

- www.Animo.eu / dealer log in: Extranet *
- By Email

* User manuals, service manuals and software updates can be found on the Extranet section of www.animo.eu. If you do not have access, please request your personal login code on our website.

5.0 SERVICE

⚠ WARNING

- In order to descale the water reservoir, the device must be opened. This will expose live parts of the machine, which can be touched easily. This may lead to highly dangerous situations!

⚠ WARNING

- The device must not be submerged or hosed down.
- Always stay with the device during maintenance work.

5.1 Setting a service parameter

During installation, set a parameter for the device to be serviced. See Service Menu item 2.8 Descale / filter. Use the table below to set the correct service parameter.

Service parameter reached?
The dispensed drinks are counted during use. If the service parameter is reached the display shows the following message: *Descale / filter* (fig. 12).

The message indicates that the device must be descaled. If a water filter is fitted (recommended), this is also an indication that the filter must be replaced.

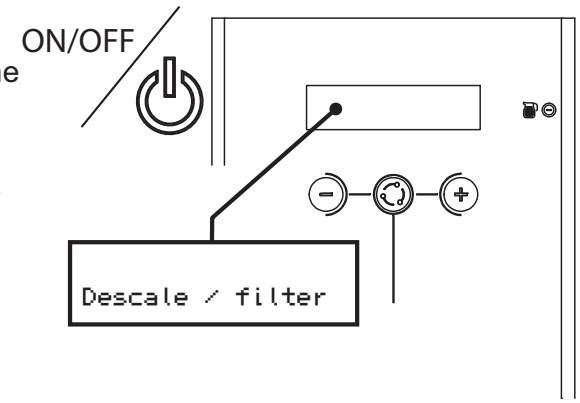


Fig. 12

Water hardness table

Water Quality	Hardness				Service Indicator (cups)
	°D	°F	mmol/l	mgCaCo3/l	
Very hard	18-30	32-55	3,2-5,3	321- 536	5000
Hard	12-18	22-32	2,2-3,2	214-321	8500
Average	8-12	15-22	1,4-2,2	268-214	12.500*
Soft	4-8	7-15	0,7-1,4	72-268	20.500
Very soft	0-4	0-7	0- 0,7	0-72	0 = uit

Table 5

5.2 Preventative maintenance

5.2.1 Service contracts

PREFACE

Preventative maintenance will lengthen the life cycle of the device and reduce the chance of malfunction. Before carrying out maintenance, read the safety instructions in the user manual, service manual, and recommended cleaning agents. User manuals, service manuals and software updates can be found on the Extranet section of www.animo.eu. If you do not have access, please request your personal login code on our website.

Water filter

We strongly advise you to use a water softener and/or water filter if the mains water is heavily chlorinated or is too hard. This increases the quality of the drink and will ensure that you do not have to descale the device too often.

Brewer unit

In some cases, a substitute brewer is used during maintenance. The brewer removed can then be repaired in the workshop before being used again during the next service.

5.2.2 Servicing

For an estimated total of < 25000 cups a year we recommend one service a year.
For an estimated total of > 25000 cups a year we recommend two services a year.

Service activity	Time	Product	Art. No.:	OptiFresh			
Descale	45 min.			**1**	**2**	**3**	**4**
Descale boiler system (see service manual). Use valve seal set if necessary.		Animo descaler	49007				
		Valve seal set	99673	2x	3x	3x	4x
Brewer	15 min.						
Replace a number of parts. Clean the brewer. Check that it is working correctly. Adjust brewer unit tensile strength if necessary.		Permanent filter	03374	1x	1x	1x	1x
		Wiper	03380	1x	1x	1x	1x
		Seals	03375	1x	1x	1x	1x
		Animo cleaner	49009				
Mixers	10 min.						
Check Motor axis for dirt and wear and tear. Replace green mounting ring. Replace mixer rotor. Clean mixer parts. Grease water connection using silicone grease).		Mixer fan	03254	-	1x	1x	2x
		Mounting ring (incl. seals).	03253	-	1x	1x	2x
Inspection (general)							
Check that the entire machine is working. Check parts for damage/wear and tear and/ or leaks.							
Cleaning (general)							
Brewer and mixer unit as for weekly cleaning. The entire interior and exterior of the machine.							

Table 6

⚠ WARNING

- Do not leave the device during maintenance work.
- When descaling always follow the instructions for the descaler used.
- It is advisable to wear safety goggles and protective gloves when descaling.
- After descaling, allow the device to run a minimum of three times.
- Wash hands thoroughly after descaling.
- The device must not be submerged or hosed down.

5.3 Descaling instructions

Animo supplies Descaler in the following quantities:

- Descaler 48 x 50g sachets (Art. No. : 49007)
- Descaler 1kg tube (Art. No. 00009)

Time required, products and tools:

- Time: approximately 45 minutes
- Animo Descaler x 2 sachets or 8-10 dessert spoons
- Drip tray of approximately 1.5 litres
- Bucket or basin at hand

1. Switch on the device and let it warm up.
   The advantage of this is that the reservoir is properly warmed in advance, which achieves a better result during descaling.
2. Switch off the device and pull the plug out of the socket.
3. Dispense one litre of hot water from the water reservoir using the tap at the front of the device (fig. 13-1).
4. Remove the rear plate (fig. 13-2) and unscrew the reserve lid (fig. 13-3). Take care: HOT!
5. Before going any further, read the warnings and instructions for use on the Animo Descaler sachets before dissolving two 50g sachets in the measuring jug (8-10 dessert spoons).

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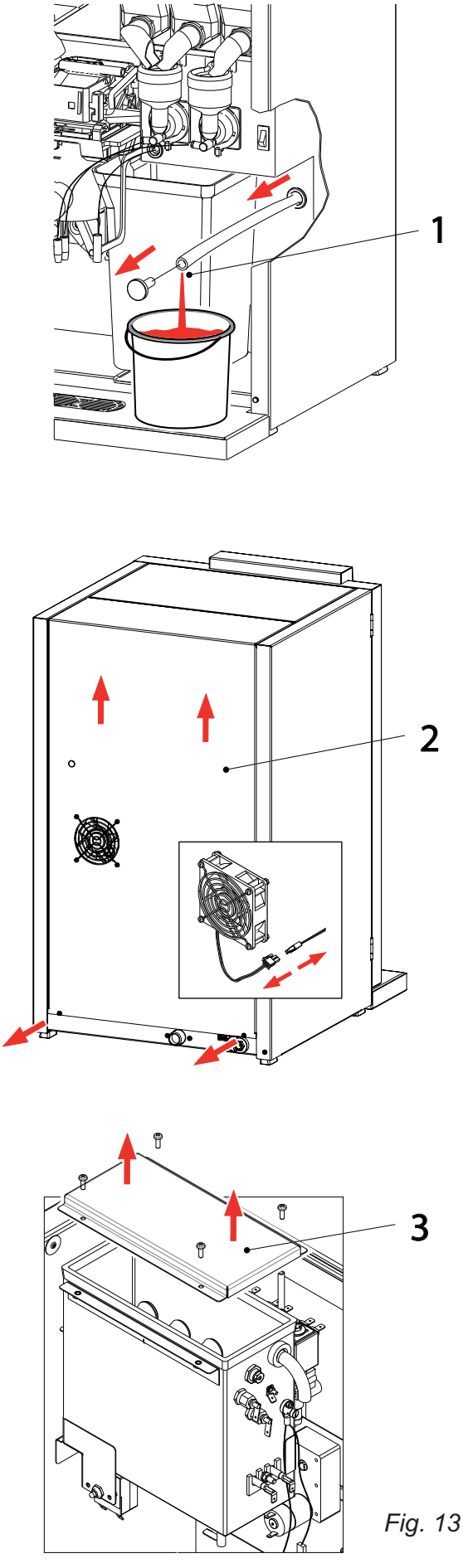

Fig. 13

6. Pour the acid solution into the reservoir (fig. 14-1). The acid solution will now react with the lime scale.
7. Leave the solution to soak for a minimum of 10 minutes, until the foaming has stopped.
8. Use a brush to spread the acid over the level electrodes during the soaking time (fig. 14-2).
9. Put the plug in the socket again and turn on the device so that the reservoir warms up.
10. Activate the BREWER cleaning programme (fig. 14-3), so that the acid solution leaves the water reservoir via the BREWER VALVES. Place a drip tray under both outlets (fig. 14-4) and follow the instructions on the display.
11. Activate the MIXER cleaning programme (fig. 14-5), so that the acid solution leaves the water reservoir via the MIXER VALVES. Place a drip tray under both outlets (fig. 14-4) and follow the instructions on the display.
12. Turn off the device and allow the reservoir to empty completely using the tap (fig. 14-1).
13. Turn on the device again; the reservoir will refill with clean water. Repeat instruction 10 one more time to rinse the reservoir completely free of acid.
14. Turn on the device again; the reservoir will refill with clean water. Allow the water reservoir to heat up.
15. Activate the BREWER cleaning programme (fig. 14-3), so that valves and pipe systems are rinsed clean. Place a drip tray under both outlets (fig. 14-4).
16. Activate the MIXER programme (fig. 14-5), so that valves and pipe systems are rinsed clean. Place the measuring jug under the outlet (fig. 14-6).
17. Repeat the above descaling procedure if lime scale is still present in the reservoir.
18. Screw the lid back onto the reservoir and replace the rear plate.
19. Clear the service parameter counter in the Service Menu **2.6 Descale / filter /2.6.2 Reset service counter.**
20. The device is now ready for use again.

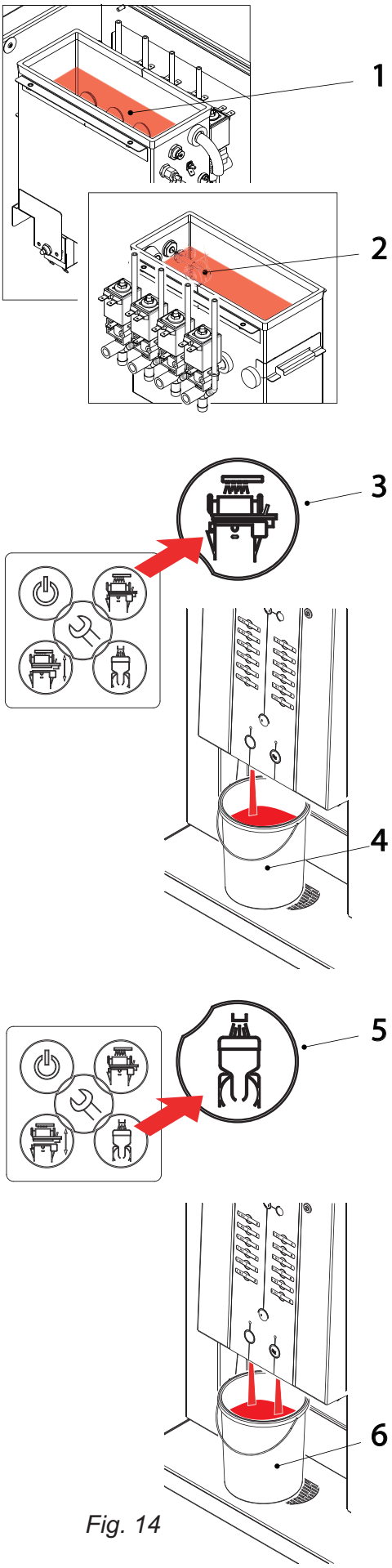

Fig. 14

6. COMPONENT ACCESSIBILITY

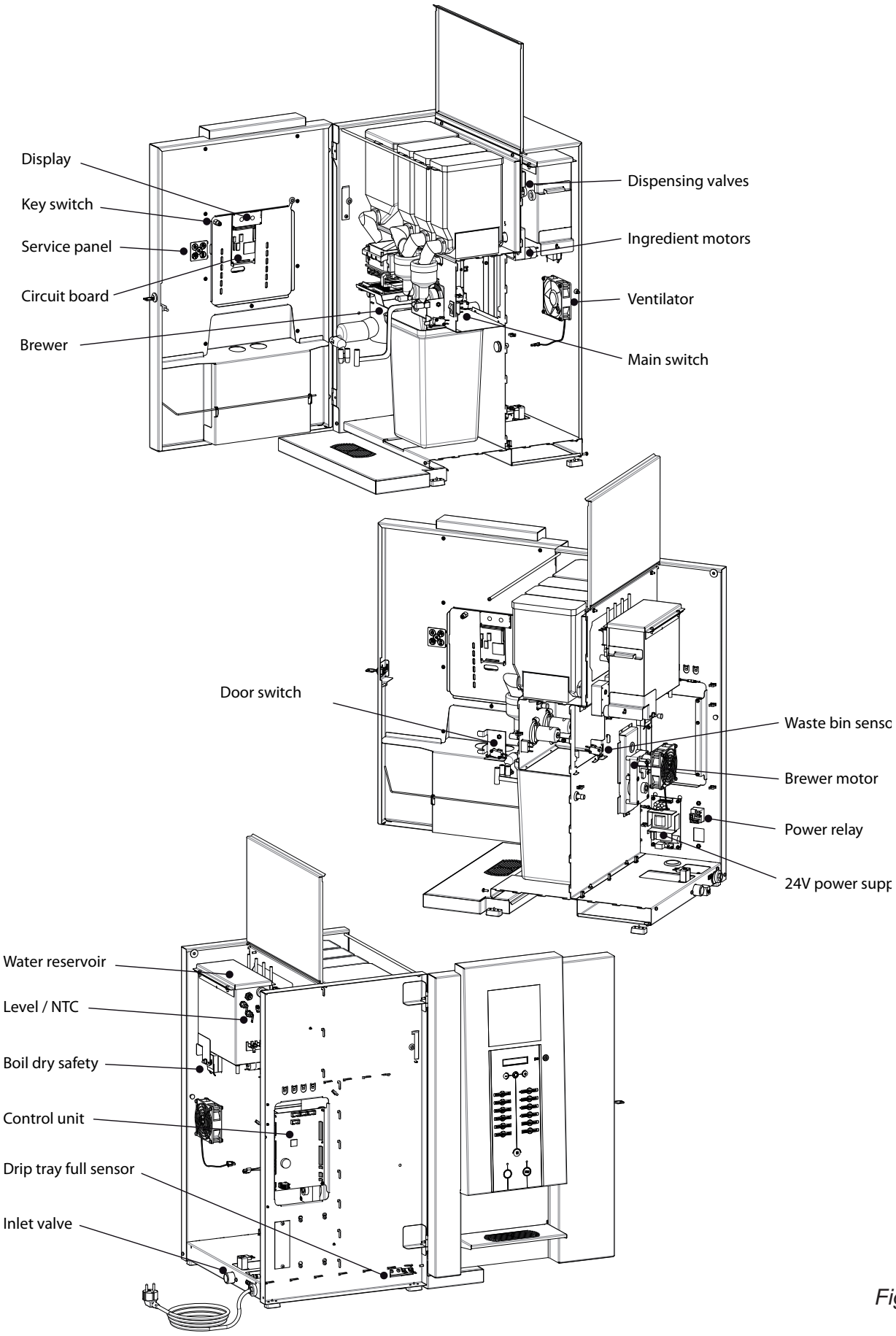

Fig. 15

6.1 Electronics summary

WARNING

During repairs or maintenance work, avoid electrostatic discharge (ESD) on the control unit.

- Control unit 6.1.1
- Power supply 230Vac:24V 65W 6.1.2
- Circuit board 6.1.3

6.1.1 Control unit

This control unit is the device's main control unit and is accessible by removing the left side panel (fig. 16a). The following important parts can be found in the main control unit (fig. 16):

- Fuse (6, 3A t): to safeguard the power supply to the control unit.
- Battery: to maintain the clock and counter function when there is no power supply to the device.

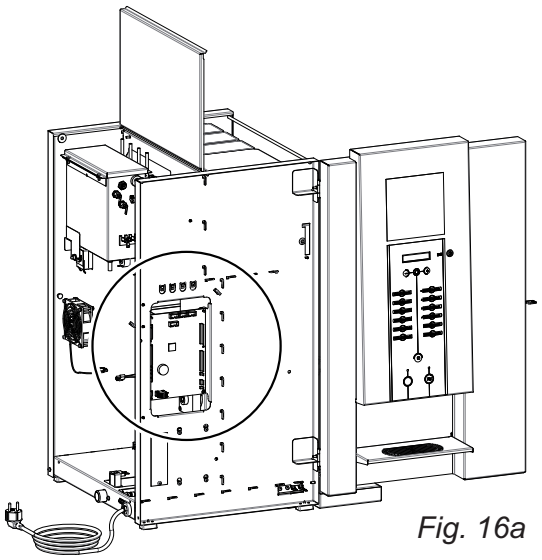

Fig. 16a

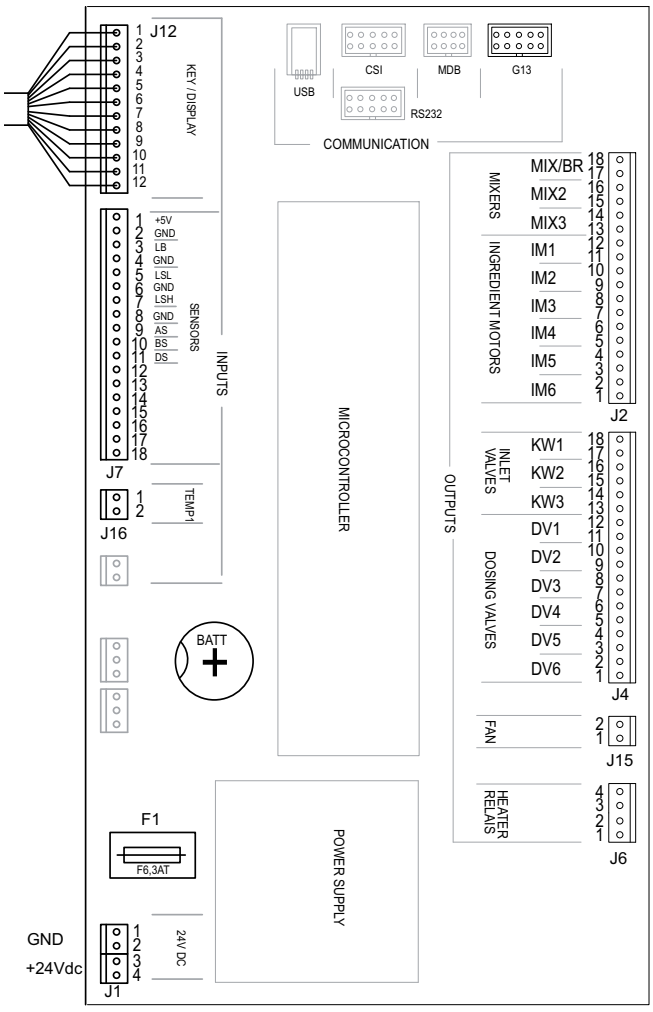

Fig. 16

6.1.2 Interface / Display

The interface (fig. 17) connects all components found inside and on the door with the main control unit via a flat cable.

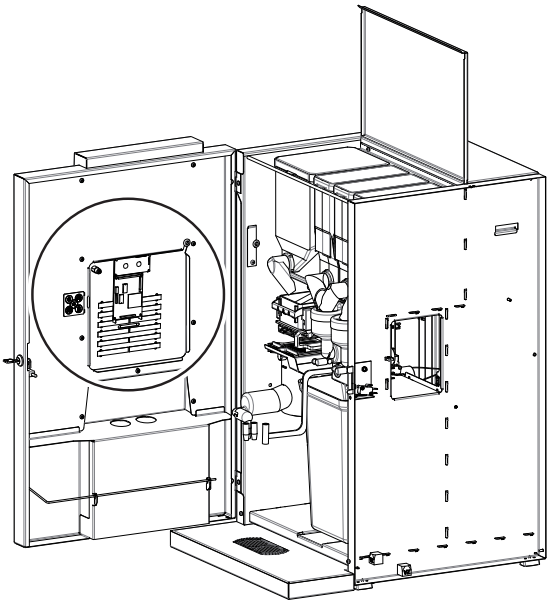

Fig. 17a

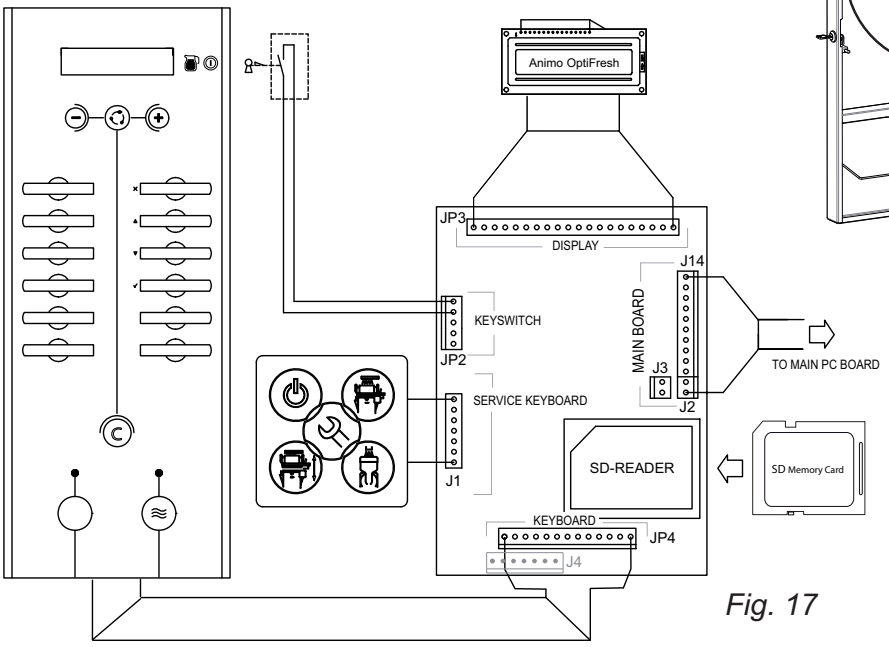

Fig. 17

6.1.3 Power supply

The 24 V DC power supply (fig. 18) consists of a 24V DC 65W switch mode power supply and can be accessed by removing the rear plate. The power supply is located under the main circuit.

During an overload the power supply automatically switches off. Reset the power supply by turning the main switch off and on.

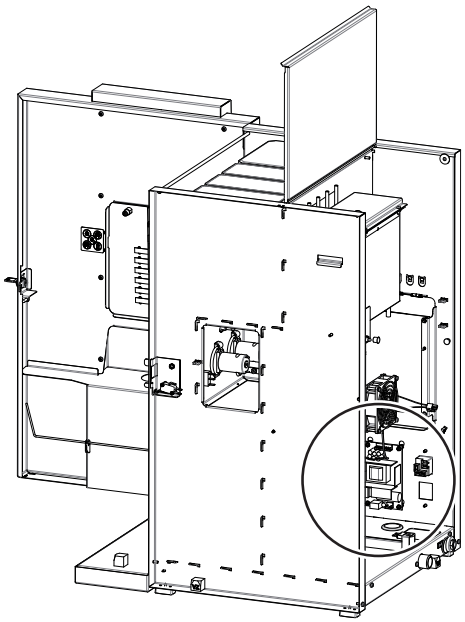

Fig. 18a

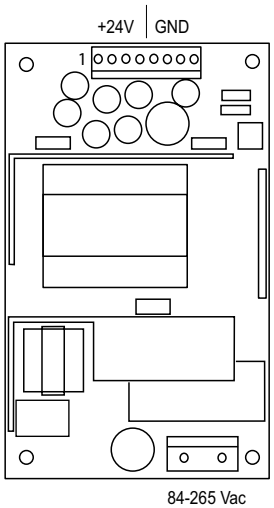

Fig. 18

6.2 Main circuit board entrances

Connector J12
Connector cable between the main circuit and door circuit

Connector J7			
Pin	**Sensor**	**Colour**	**Comments**
1-2	-		
3	Drip tray sensor	Yellow	
4	Drip tray sensor Mass	Black	
5	Level sensor Low	Brown	
6	Level sensor Mass	Green	
7	Level sensor High	White	
8	-		
9	Waste bin switch	Pink	Waste bin in position; contact closed
10	Brewer switch	Grey	Brewer in home position; contact closed
11	Door switch	Orange	Door closed; contact closed
12-18	-		

Connector J16			
Pin	**Sensor**	**Colour**	**Comments**
1	NTC sensor	Violet	
2	NTC sensor	Violet	

Battery	
Lithium 3V Type CR2025	**Art. No. 02816**

Fuse	
6,3A slow	**Art. No. 03391**

Connector J1			
Pin		**Colour**	**Comments**
1	Mass (GND)	Black	
2	Mass (GND)	Black	
3	+24V DC	Red	
4	+24V DC	Red	

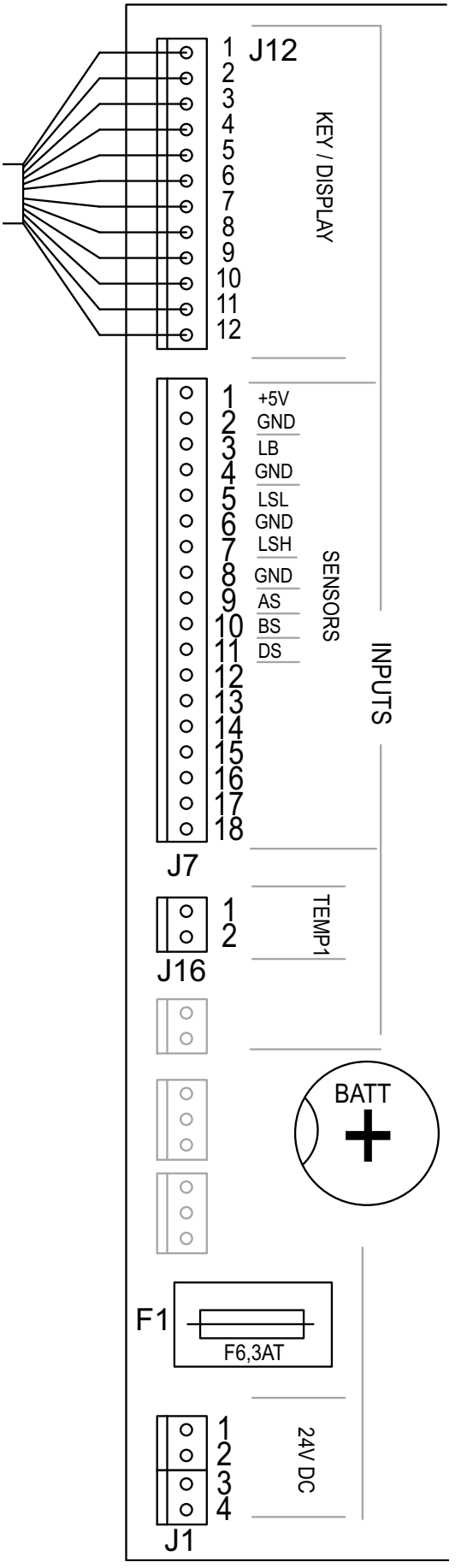

Fig. 19

6.3 Main circuit board exits

Connector J2			
Pin	**Motor**	**Colour**	**Comments**
17-18	Brewer / Mixer 1	Black	Correct direction of rotation = red wire (+24VDC) **NOT** on red spot of the Brewer Motor
15-16	Mixer 2	Violet	**Take care to rotate in the right direction!** Shared +24 DC (red wire) on red spot on Mixer and Ingredients Motor.
13-14	Mixer 3	Pink	
11-12	Ingredient Motor 1	Brown	
9-10	Ingredient Motor 2	Green	
7-8	Ingredient Motor 3	White	
5-6	Ingredient Motor 4	Yellow	
3-4	Ingredient Motor 5	Grey	
1-2	Ingredient Motor 6		-

Connector J4			
Pin	**Valve**	**Colour**	**Comments**
17-18	KW 1 (inlet valve)	Violet	Red wire is a shared (24VDC) connection
15-16	KW 2	-	
13-14	KW 3	-	
11-12	DV 1 (brewer valve)	Brown	
9-10	DV 2 (mixer 2 valve)	White	
7-8	DV 3 (mixer 3 valve)	Yellow	
5-6	DV 4 (hot water tap)	Green	
3-4	DV 5	Grey	
1-2	DV 6 (cold water tap	-	-

Connector J15			
Pin	**Motor**	**Colour**	**Comments**
2	Ventilator	Red	
1		Orange	

Connector J6			
Pin	**Relay**	**Colour**	**Comments**
4	Power relay (element)	Red	
3		White	
2	Power relay	-	-
1			

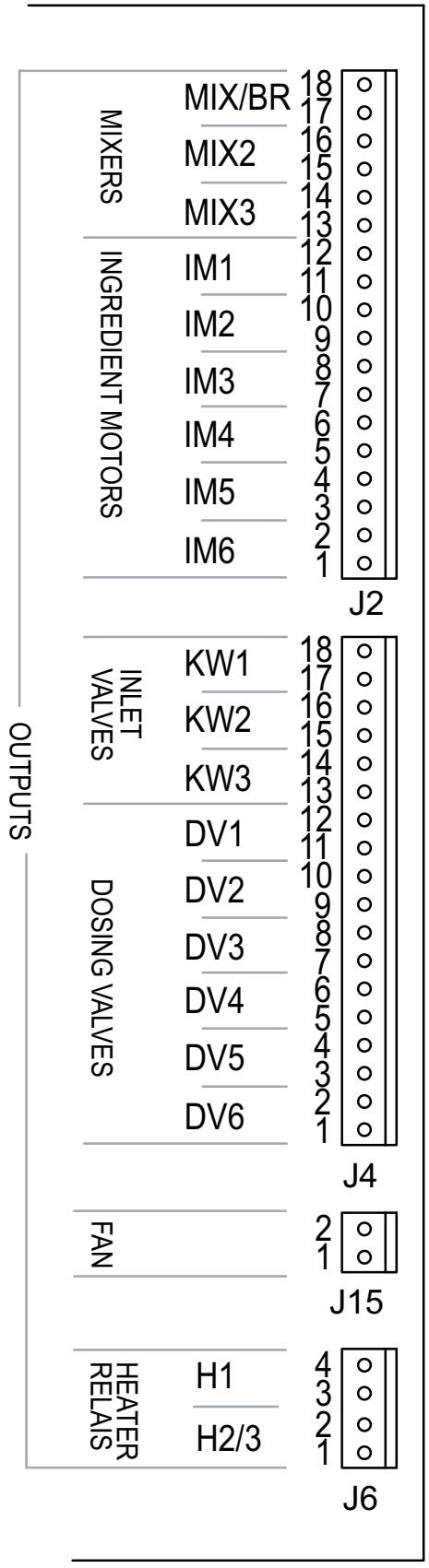

Fig. 20

6.4 Main circuit board communication

Communication			
Conn			**Comments**
G13	Coin tester NRI G13		
MDB			Future port
CSI			Future port
RS232			Future port
USB			Future port

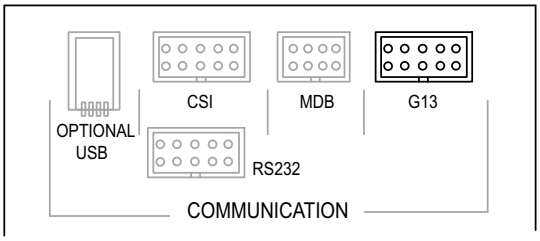

Fig. 21

7. TROUBLESHOOTING

WARNING

- When carrying out repairs and cleaning the device, the plug should always be removed from the wall socket before the device is opened.

Preface

Before searching for the defect, check that all parts are in their correct position. To do this, remove the device's rear plate and check that all printed circuit boards, connectors, wire beams and pipes are mounted correctly.

After carrying out a general parts inspection, use section 7.3 Troubleshooting analysis to verify the probable cause of the problem.

#) If the column solution advises replacement of the part concerned, there is always the possibility that the defect may be caused by another problem. The functioning of the device should therefore be thoroughly tested to make sure that the defect does not reappear.

7.1 Read log

The last 20 error messages displayed during use are registered and saved (fig. 22).

To read out these error messages activate the menu item 2.8. The first error is the most recent error message.

- The first line shows the same error codes listed in the troubleshooting analysis table (see section 7.3)
- The second line shows the date and time at which the error message occurred.

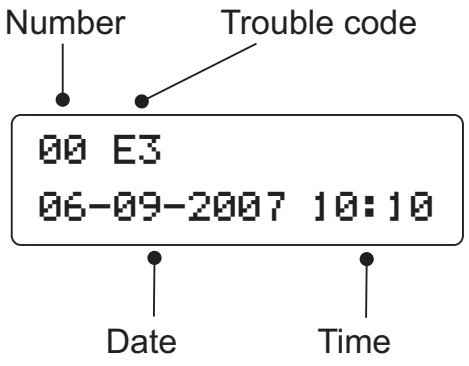

Fig. 22

7.2 Clear log

Use the Clear log function in service menu 2.9 to clear the log.

7.3 Troubleshooting

Display messages and errors	Possible cause	Action
Out of order Boiler filling	When used for the first time: boiler is still empty and is being filled.	No action required. When boiler reaches the appropriate level, the display will show 'Boiler is heating up'.
	During use: boiler is not filling up or is filling up too slowly. After 60 sec. the display will show 'E3 Level error'.	Check the water pressure, turn the water supply tap completely open and check the connection tube for any kinks.
Out of order Boiler heating	The boiler temperature is (temporarily) too low because too much water has been used.	Once the temperature is restored, the message automatically disappears and the drink selection buttons are reactivated.
Out of order Drip tray full	Drip tray full.	Once the drip tray is emptied, the message automatically disappears and the drink selection buttons are reactivated.
Out of order Waste bin full	The maximum number of coffee cups that the waste bin can hold has been reached.	Empty waste bin. The cup counter is automatically reset when the waste bin is replaced.
Out of order Waste bin is missing	Waste bin is not detected.	Check the waste bin.
Out of order Door open	For safety reasons, the machine automatically switches off if the door is opened.	The machine can be operated with the door open by using the door pin (User manual: section 8.1).
Out of order Stand-by	The machine is on standby.	This function can be set manually (User manual: section 5.2-A) or automatically (User manual: section 6.1 menu item 1.2 Timer settings).
Out of order E1 Level error	Minimum electrode error: minimum electrode detects no water but maximum electrode does. Inlet valve shuts.	Check that the level sensors are functioning. See service menu **2.7 Hardware test**. Switch the device off and on again.
Out of order E2 Level error	Maximum electrode error: maximum electrode not reached within 30 sec. Inlet valve shuts. Boiler fills up too slowly. Water pressure has dropped or the water tank (stand-alone) is empty.	Check the water pressure, turn the water supply tap completely open and check the connection tube for any kinks. Switch the device off and on again.
Out of order E3 Level error	Electrode error: minimum electrode not reached within 90 sec. Boiler fills up too slowly Water pressure has dropped or the water tank (stand-alone) is empty.	Check the water pressure, turn the water supply tap completely open and check the connection tube for any kinks. Switch the device off and on again.

Display messages and errors	Possible cause	Action
Out of order E4 Brewer error	Brewer was not started from its initial position. Brewer motor not turning.	Check the brewer motor function in the service menu **2.7 Hardware test**. Switch the device off and on again.
Out of order E5 Brewer error	Brewer was not returned to its initial position.	Check the brewer switch and brewer motor function in the service menu **2.7 Hardware test**. Switch the device off and on again.
Out of order E6 Boiler temp	Temperature sensor problem.	Check the temperature sensor function in the service menu **2.7 Hardware test.**
Out of order E7 BM/MM1 error	The Brewer motor stuck. Brewer motor exit overload (power too high). Control unit has switched off the exit.	Check that the brewer unit is secured properly in the holder. Remove the brewer and repair the obstruction. Switch the device off and on again.
Out of order E8 Mixer 2 error	Mixer 2 motor stuck. Mixer 2 motor exit overload (power too high). Control unit has switched off the exit.	Check if Mixer 2 is unclean or incorrectly fitted. Clean and/or check whether the rotor can run freely. Switch the device off and on again.
Out of order E9 Mixer 3 error	Mixer 3 motor stuck. Mixer 3 motor exit overload (power too high). Control unit has switched off the exit.	Check if Mixer 3 is unclean or incorrectly fitted. Clean and/or check whether the rotor can run freely. Switch the device off and on again.
Out of order E10 Valve error	Valve exit overload (power too high). Control unit has switched off the exit.	Check valves and wiring for leakage. Switch the device off and on again.
Out of order E11 Ingr. m error	Ingredient motor stuck. Ingredient motor exit overload (power too high). Control unit has switched off the exits.	Check the driving motor function in service menu **2.7 Hardware test**. Empty the Canister(s) and clean thoroughly. See User manual section **8.9 Cleaning the canister(s)**. Switch the device off and on again.
Out of order E12 Fan error	Fan exit overload (power too high). Control unit has switched off the exits.	Check the ventilator and wiring for leakage. Switch the device off and on again.
Out of order E13 Mixer error	Brewer and Mixer exit group overload (power too high). (power too high). Control unit has switched off the exits.	Carry out the inspection actions as described for E7, E8 and E9. Switch the device off and on again.
Out of order E14 Output err.	Ingredient motor and ventilator exit group overload (power too high). Control unit has switched off the exits.	Carry out the inspection actions as described for E11 and E12. Switch the device off and on again.
	Valve exit group overload (power too high). Control unit has switched off the exits.	Carry out the inspection actions as described for E10. Switch the device off and on again.

8. COIN MECHANISM (OPTIONAL)

The OptiFresh is available with an optional coin mechanism suitable for euros (€0.05 - €2.00). Other currencies are available on request.

The coin mechanism can also easily be programmed to accept tokens.

It is also possible to have an existing device fitted with the coin mechanism. The right-hand side panel is replaced by a wider side panel, which houses the coin mechanism and slot (fig. 23).

1. Coin insert
2. Return button
3. Return slot
4. Money drawer
5. Door lock (also locks the money drawer)

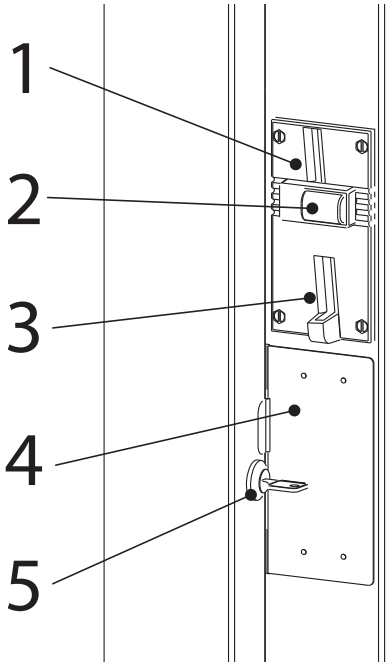

Fig. 23

8.1 Standard configuration

Fig. 24 shows the standard configuration of the DIL switches, S1-10 ON

The coin mechanism is connected to the device with a connector (Fig. 24A).

8.2 Rejecting coins

If desired, certain types of euro coins can be rejected by using DIL-Switch block S1 + S2 (fig. 24).

Coin	DIL +	DIL
€ 0,05	S1-1	S1-7
€ 0,10	S1-2	S1-8
€ 0,20	S1-3	S2-1
€ 0,50	S1-4	S2-2
€ 1,00	S1-5	S2-3
€ 2,00	S1-6	S2-4
Token 607	-	S2-5
Token Eagle	-	S2-6
Token new	-	S2-7
Token new	-	S2-8
ON = rejected / OFF = accepted		

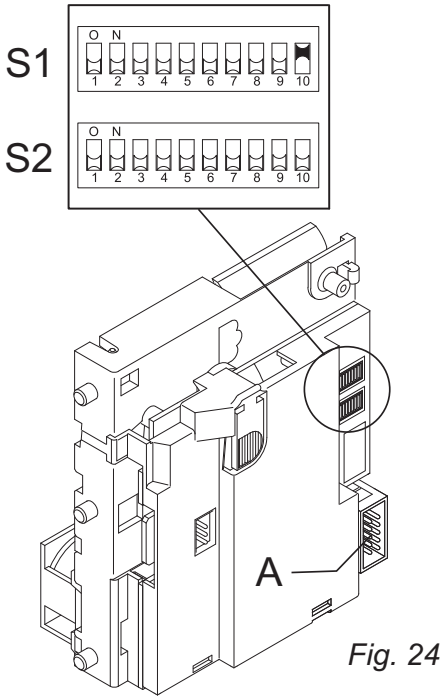

Fig. 24

Example: Reject €1 and €2 euro coins (fig. 25)

- S1-5, S2-3 -> ON (€ 1,00 rejected)
- S1-6, S2-4 -> ON (€ 2,00 rejected)

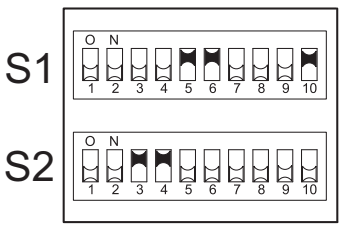

Fig. 25

8.3 Activating existing tokens

The token shown here (fig. 26) is programmed in the coin mechanism as standard.

Configure the service menu as described in the following section from point 4.

Token Art. No. : 03344

Fig. 26

8.4 Programming a new token

- Required: 10 tokens
- Attention: remember the DIL switch positions for any rejected coins. Leave S1.10 ON!

1. The following DIL switches on Switch Block S2 should be facing upwards and switch to ON (fig. 27).
   a) First switch S2-9 Teach Mode to ON
   b) Then, switch S2-7 coin channel 6 (TM) to ON
2. Insert a minimum of ten tokens (Fig. 28). These ten tokens should not be the same. After the ten tokens have been inserted the (internal) reject coil will be automatically drawn.
3. End programming by switching the DIL switch S2-9 downwards to OFF. If saved successfully, the reject coil will be drawn once again. After this, switch S2-7 OFF again. (To halt programming, first switch S2-7 and then S2-9 to OFF).
4. Service menu: change coin channel 6 (menu item 2.5 Payment system) from €2 to TOKEN.
5. The device now accepts the token as a method of payment.

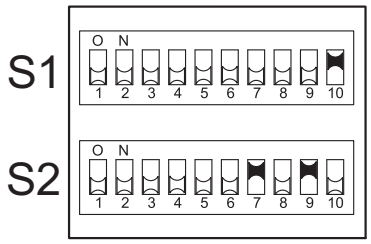

Fig. 27

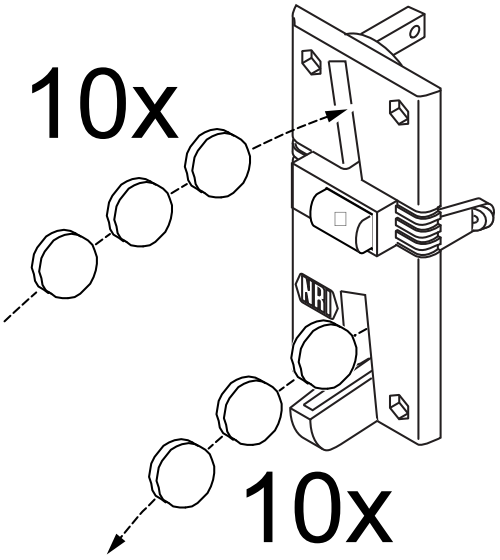

Fig. 28

8.5 Accepting Euros and Tokens

Carry out section 5.3.3 and 5.3.4 beforehand.

- Open the service menu
- Set a price using menu 2.2 Button settings / Button 1-12 / Price (e.g. €0.50)
- The recipe buttons are activated after sufficient euros or tokens have been inserted!

8.6 Accepting Tokens only

Carry out sections 5.3.3 and 5.3.4 beforehand.

1. Open the service menu
2. Set to TOKEN using menu 2.2 Button settings / Button 1-12 / Price.
3. Block the €0.05 - €2 coins using the coin mechanism DIL switches and the table below.
4. The recipe buttons are only activated after a token is inserted!

Coin	DIL +	DIL
€ 0,05	S1-1	S1-7
€ 0,10	S1-2	S1-8
€ 0,20	S1-3	S2-1
€ 0,50	S1-4	S2-2
€ 1,00	S1-5	S2-3
€ 2,00	S1-6	S2-4
ON = rejected / OFF = accepted		

8.7 Cleaning the coin holder

From time to time, the coin mechanism should be cleaned with a light, damp cloth (lukewarm water containing a mild cleaning agent).
No further maintenance is necessary.

⚠ ATTENTION

- The cloth should not be too wet as any liquid that gets into the device will damage the printed circuit board.
- Do not use any solvents or scouring agents that may damage the

1. Turn off the device.
2. Take the coin mechanism out of the side panel.
3. Carefully open the coin holder valve (fig. 29A) and hold it open.
4. Clean the coin holder with a cloth and close the valve again.
5. Turn on the device again.

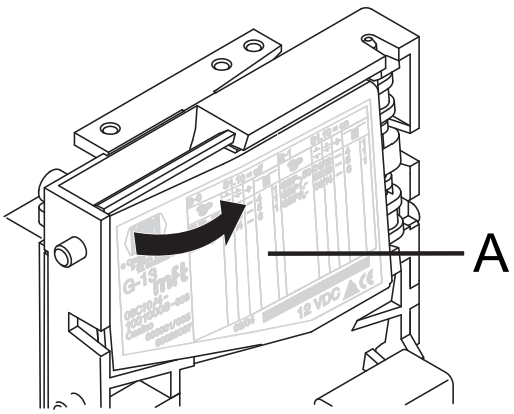

Fig. 29

Animo®

OPTIFRESH

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